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ABSTRACT

Libraries in distance education universities such as Athabasca University in Alberta, Canada, are faced with special difficulties when seeking ways to reach out to their students to expand their understanding of libraries as information sources and provide them with the skills to tap library and other information sources. However, developments in communications and computer technology appear to provide some answers to the problem of bridging the distance gap in the areas of bibliographic instruction, reference and information services, and document delivery. For example, video technology in the form of cassettes or discs would seem to offer the most viable means of bibliographic instruction at the present time. Possibilities for reference and information services include access to the library's online public access catalog (OPAC) via the student's home or office microcomputer or through regional offices and cooperating institutions. The provision of information services via telefacsimile and electronic publishing is a further consideration, but impediments to the use of this option may exist in the forms of copyright issues, accessibility problems, and expense. Nevertheless, the electronic library is the natural form for distance education library services, and it is important to begin to prepare the groundwork for the use of new technological applications in library services. (Author/KM)

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LIBRARY AND INFORMATION ACCESS IN DISTANCE EDUCATION: THE ROLE OF TECHNOLOGY

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"It requires a great deal of reading, or a wide range of information, to warrant us in putting forth our opinions on any serious subject; and without such learning the most original mind may be able indeed to dazzle, to amuse, to refute, to perplex, but not to come to any useful result or any trustworthy conclusion."

John Henry Newman, Knowledge, Learning, and Professional Skill, (1852).

I. INTRODUCTION

The provision of library services to students enrolled in post-secondary distance education programmes is a subject that has not generated much comment in either library or distance education literature. That literature which has been written on the subject has most frequently touched on the issue of delivery of library services to students registered in extension courses given by institutions which teach the same courses on-campus.(1) In most such cases, the students are taught by the traditional classroom method in centres at some distance from the main campus. The problem of delivery of library services then becomes a question of whether to provide a classroom collection of materials for the duration of the course, or to cooperate, in some fashion, with public and regional library systems in providing the necessary library materials.

For those institutions exclusively devoted to distance education and adhering to an open admissions policy and independent learning, the provision of library services to students has different and special challenges. It is not particularly difficult to provide students with their basic textbooks nor even to establish a mail-order service of supplementary materials available from the library. The real challenge in library service to distance education students working independently comes when we address the question of the purpose of post-secondary education and the role of libraries in serving that purpose.

Post-secondary education has both a philosophy and a process. The process is to move students through a series of courses to the point where they can graduate with a degree of some sort. The philosophy is, in part, to graduate individuals with the ability to learn outside the formal framework of courses and "to define, carry out, and evaluate learning activities independent of an instructor",(2) so that there

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will be continued growth in the individual's life and occupation after leaving university. G.G. Allen, in a thoughtful paper on this subject, has said that:

> "Whatever the vision of higher education, there is today no doubt that the official policies of large numbers of institutions of higher education, ... feature prominently the perceived need for students to obtain a degree of mastery over the sources and processes of information as a lifelong attitude. Furthermore, it is widely accepted that higher education must increasingly relate to the context of society, and that to this end, graduates must have been, to a degree, exposed to liberalizing influences."(3)

Both Allen and Sheila Howard, in her article "Libraries and Distance Education", indicate the extent to which the development of individuals who are intellectually curious and devoted to lifelong learning is dependent on acquiring skills in library use and knowledge of information resources.(4) The special challenge for librarians in distance education institutions is to find ways and means of assuring that the students we serve acquire the skills to use libraries and seek knowledge through information resources. Given that many distance education students live in small, relatively isolated communities, it is no mean challenge. Even those students who live in large centres may be isolated to the extent that they have limited mobility to visit, and use, the libraries in their communities. It is in this context that I have pondered the usefulness to us of some of the recent advantages in technology to assist the students to develop more sophisticated library and information skills.

II. THE CONTEXT

The selection of these particular areas of concern on my part is a function of where we are at Athabasca University in our delivery of library services. For that reason, I think it is important to describe our present level of library services. Athabasca University is solely a distance-education university, serving students all over Canada but with the concentration of registrations in the Province of Alberta where the university is situated. The policy of open admission means that any person, 18 years

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of age and over can register to take courses without reference to their existing level of formal education. About 30 percent of the student body (1981/82) was rural-based; of the urban students, most are found in the two largest cities, Edmonton and Calgary.

The university has an extensive procedure of four phases for the development of courses. During the last phase of course development, any requests for materials needed for the course as supplementary reading are sent to the library and every effort is made to have the materials on the shelf by the time the course opens for registration. Students can 'phone the library collect and request these materials, which are then mailed out to them. If the student is doing an assignment that is open-ended in the selection of materials, the library staff will choose books that seem suitable to the topic and send them out by mail, if the student wishes. Library staff will also handle reference questions and literature searches for the students.

In terms of the provision of basic course-related materials, then, AU Library provides an efficient service to its students. However, in terms of the development of the student as an individual aware of a broader body of knowledge than that presented in his courses and with the skills and understanding to access that knowledge, the library has not yet addressed the problem. The three areas I have identified as being most important in meeting the challenge of developing the student's awareness of literature and information services, are:

1. Teaching basic library skills (or bibliographic instruction as it is currently called)

2. Making the student aware of the wider variety of reference and information sources available and the means of tapping these resources.

3. Delivering the identified information in as speedy and problem-free a manner as possible (sometimes called document delivery).

Because our students are not on-campus, the use of technology to bridge the gap between the library and the student in home or workplace holds the greatest possibilities but also the greatest challenge. The challenge is to find technology that is nearly universally accessible and relatively inexpensive.

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III(a) BIBLIOGRAPHIC INSTRUCTION

The conventional way to provide students in distance education with library instruction would be through print. There are several possibilities such as a self-guided study manual on how to use the library; an optional credit course on research methods which included basic library skills training; or participation with student services personnel in study skills sessions in the larger centres (where an institution provides such services). There are other more informal ways to keep students informed of library services and new acquisitions such as notices and articles in university newsletters or magazines and through information sheets included with books mailed out to students. The advantages of using print for bibliographic instruction at a distance is that it is both universally accessible and comparatively inexpensive to produce.

There is, in my opinion, a disadvantage to library instruction through print. The student must learn library skills in a vacuum - he/she cannot see how a directory differs from an index or how either of these differs from a bibliography. Furthermore, the student cannot be shown the library catalogue or COMCat in whole so that the purpose of explaining author, title and subject entries may be completely lost. And how, for instance, do you provide that feeling of exitement that comes with the discovery of significant and related fields of literature while browsing in the stacks? For those students in large centres with access to public, college and/or university libraries, these may not be such crucial issues. For students in smaller communities or on farms where library facilities are minimal or non-existent, this point takes on more significance. If the goal is to develop the student's awareness of a large body of literature and information resources, the challenge is more than teaching library skills. It is necessary to get across to the student the very concept of an academic library. In this context, video technology and TV would appear to provide useful media for library instruction. Of these, TV is currently the most universally available technology even in isolated communities. Nevertheless, the use of TV in distance education has been constrained by two factors: cost of production and reluctance of TV programmers to show limited-interest programmes except at off-peak hours.(5)

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Video technology, whether in the readily available cassette form or the coming, but less common, disc form, would seem to offer the most viable means of bibliographic instruction at the present time. In North America, the estimates of the availability of home video equipment vary, but there is no doubt that such equipment is becoming widespread, available even in quite remote communities. While Bates indicates only 15 percent of homes in Canada had a VCR in 1984, (6) the percentage of homes having VCR's is increasing rapidly each year, and it is quite cmmon now to develop distance education courses with a videocassette programme as an enhancement. In terms of library instruction, the video format has distinct advantages. It could be used in conjunction with a workshop or study manual providing the student with active involvement in the learning process. Where the student does not have a video player, the print format is still available to him. Video cassette programmes can be produced "in-house" and, with care, need not be prohibitively expensive. By being produced within the university library, a video programme would allow the student a "window" into the library and its activities. The student's capacity to understand the purpose of bibliographic instruction would be neatly enhanced by the use of such a video programme, and to the extent that VCR's become more universally available in private homes, this technology has great potential for bibliographic instruction purposes in distance education. Any improvement that can be made in the bibliographic instruction of students in distance education will pay extra dividends for them both in terms of their ability to use their institution's library collection more extensively and in their greater confidence in using other library collections.

III(b) REFERENCE AND INFORMATION SERVICES

After bibliographic instruction, the next step is to inform students about the wide range of reference and information materials available to them and to provide simple, convenient ways to access these materials. Besides the access to information provided through the library catalogue, there are indexes, bibliographic sources, and interlibrary loan facilities available for student use. The Athabasca University library catalogue is produced in fiche form and copies of this COMCat

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are available in regional offices, centres and other institutions with which there are cooperative arrangements. Ideally, access to the library catalogue should be available to every student in his/her own home. As it is now, the student at home must 'phone the library collect to determine what materials are available. Materials not in the collection can be obtained by interlibrary loan but, as with any library service for undergraduates, the use of the ILL is limited simply because of the turn-around time in filling requests. Add to that the time required to send the materials by mail to the student, and interlibrary loan becomes a non-starter for distance education students. With the advent of on-line data bases and bibliographic utilities, it is possible to bring students in touch with a much wider body of information beyond that in the library of their institution. The issue here is the extent to which the library staff does the searching and delivers the result to the students or allows the student to search such data bases on his own and simply acts as the intermediary, informing the student about how and which indexes to access.

In each of the above information services, new technology opens up wonderful possibilities for broadening the student's access to information networks. The advent of home microcomputers and interactive visual communications systems such as TELIDON in Canada present us with different means of reaching out to students.

The introduction of the on-line public access catalogue (OPAC) and the possible link-up with home microcomputers provide distance education librarians with the greatest opportunity to bridge the gap between the library and the student users. The student, either in his own home or in cooperating institutions which provide the hardware and modem to call-up the library catalogue, could prepare his/her own bibliography, check whether specific titles are available in the library, or simply scan the subject catalogue to gain some idea of the library's holdings. Where an electronic mail facility is available, the student could simultaneously send a request to borrow the materials from the library. Where cooperative networking exists, and compatible systems are in place, students could conceivably have access to other library catalogues as well.

The possibilities in this field are far-reaching, but what are the probabilities of such a system reaching into the homes or offices of distance education students? Firstly, OPAC's are becoming a more common feature of North American libraries, large and small.(7) Secondly,

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the microcomputer is becoming less expensive every year and more widely available to the general public.(8) Thirdly, the technology in terms of modem connection from microcomputer to in-house systems is relatively accessible. To the extent that the OPAC system installed in a distance education university library uses hardware compatible with the most common microcomputer hardware, the probabilities are quite good that many of our students could have on-line access to the library catalogue. But even if such access cannot be available to all students, its availability through regional offices and cooperating institutions would be a step closer to reaching the students on their own ground.

In a similar way, the microcomputer has opened the way to end-user access to bibliographic and index data bases such as DIALOG. The problems of access in this case are no different for distance education institutions than for other libraries, viz, the problems of cost control and training the end user in accessing the data base. The two are interrelated: the simpler the access system and the better trained the searcher, the lesser the cost in terms of access time. Given the need of distance education students for more active efforts on the part of their institution libraries to provide them with access to reference and information sources, it is important that librarians actively explore the ways and means of solving the problems.(9) Access to and further development in on-line data bases lead inevitably to consideration of telefacsimile services and electronic publishing for the transfer of machine-readable data into the user's own computer for retrieval either on disc or paper. The possibilities through this technology of providing enriched library services to distance education students are truly exciting, but there are important impediments to the implementation of the technology.

III(c) DOCUMENT DELIVERY AND COPYRIGHT

Telefacsimile and electronic publishing are sophisticated forms of document delivery. At present, most distance education students receive document deliveries through the mail, either in the form of books or journal articles. Most journal articles are photocopied and the pitfalls inherent in such photocopying in terms of copyright violation are creating nervous disorders among university librarians. That being the case, I wonder what further pitfalls await us in the realm of electronic publishing and downloading (which is essentially a technologically advanced form of copying) where our copyright laws are

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even less clear?(10) Nevertheless, because of the crucial importance of document delivery to students in distance education (after all, they cannot come and read the material in the library) it is incumbent on librarians and their institutions to establish the necessary mechanisms for seeking copyright clearance and/or to pay the rights to copy fees on the materials being sent out to students.

Copyright, however, is not the greatest impediment to the use of currently available technology to provide our students with better library service. The costs involved and the problem of providing universally accessible systems are even greater impediments. It does not matter whether the delivery costs are passed on to the user or absorbed by the institution, they represent a major consideration for any library interested in the new technologies. The question of universal accessibility is more vexing because of the nature of distance education. In an institution such as Athabasca University, access to a university education is open to anyone over 18 if they can successfully complete the courses. It would not serve the principles of the institution, then, to develop library delivery systems using technology which was available to only a minority of students.

To the extent that VCR's and home microcomputers become as universally available as the telephone and TV are today, we can look to the use of these new technological applications in library services. In the meantime it is important to begin preparing the groundwork through research and development of systems which can be readily expanded.

IV. CONCLUSION

In a recent report, Learning at a Distance and the New Technology, it is stated that students in distance learning institutions cannot be provided with the same support services (such as libraries) which are provided in on-campus institutions.(11) Yet, the electronic library which would "create a new information infrastructure to provide the electronic scholar with the same kind of universal gateway access to recorded knowledge as the traditional library provided for printed materials" is practically upon us.(12) I believe the electronic library is the natural form for distance education library services and, because of this, distance education librarians should be at the forefront in applying the technology. The goal should be to provide a "coordinated gateway

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access to the universe of knowledge in a manner convenient and invisible to the end user".(13)

Howard has pointed out that there is a difference between independent learning provided by distance education institutions which may simply mean the physical separation of teacher and student and where the learner has freedom to choose when, where, and at what pace to study and independent learning in the philosophical notion of "cognitive independence" where the student has "control over the more substantive elements of the learning situation".(14) Most distance education courses are not constructed to allow much cognitive independence and it is Howard's contention that much could be changed in course design to encourage the development of cognitive independence. She indicates that library services would then have to be developed to meet the new course demands.

In this paper I have indicated how I think libraries in distance education can assist the development of cognitive independence through a more active programme aimed at bringing library services to the students. I believe we should be developing those library services independently of changes in the course delivery modes in distance education. That way we signal to our respective institutions that we can meet them halfway if they want to enrich course designs. In the process, we improve the awareness and quality of library service for our students.

NOTES

1. One of the earlier articles which addresses the problem directly is Ron Store, "Distance Education and Library Services," Australian Academic and Research Libraries 9 (Sept.1978):137-47

2. Sheila Howard, "Libraries in Distance Education," Canadian Journal of University Continuing Education" 11 (Feb.1985):47

3. G.G. Allen, "The Role of the Library in Higher Education and the Implications for the External Mode of Study: An Australian Perspective," Higher Education 11(1982): 535

4. Howard, 47-8

5. A.W. Bates New Communication Technology and Distance Education: Implications for Commonwealth Countries of the South, (London: Commonwealth Secretariat,1985), 5-11

6. Ibid

7. Patricia Battin, "The Electronic Library-A Vision for the Future," EDUCOM Bulletin (Summer 1984): 12-17,34

8. Learning at a Distance and the New Technology (Vancouver, Educational Research Institute of British Columbia,1982), 63

9. In their study of off-campus students and library use, Cameron and Winter found that students looked to the home institution library as an important source of information for them even when they had access to other libraries. Margaret Cameron and Andrew Winter, "Off-Campus Students and the Library," Currency 3 (1983): 14-15

10. In the recent Government of Canada White Paper on copyright, From Gutenberg to Telidon (Ottawa,1984) it is stated that "It is unclear whether transforming computerized information from one format to another...constitutes copying within the meaning of the current Copyright Act". The White Paper proposes however to protect machine-readable data from unauthorized reproduction in any new statute.

11. Learning at a Distance,78

12. Battin, 13

13. Ibid

14. Howard, 51